

Application No. 10/810,190  
Amendment dated April 21, 2006  
Reply to Office Action of October 31, 2005

**Amendments to the Drawings:**

The attached sheets of drawings include changes to Figs. 1, 2, 12, 16, 18, 21, 22, 25-27, 29-31, 33, 36, 38, and 40. These sheets, which include Figs. 1, 2, 12, 16, 18, 21, 22, 25-27, 29-31, 33, 36, 38, and 40, replace the original sheets including Figs. 1, 2, 12, 16, 18, 21, 22, 25-27, 29-31, 33, 36, 38, and 40. In Fig. 1, previously omitted reference number 138 has been added. In Figs. 2, 12, 16, 18, 21, 22, 25-27, 29-31, 33, 36, 38, and 40, Applicant modified the reference numbers for consistency with the specification.

Attachment: Replacement Sheets

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### **REMARKS**

Applicant cancelled claims 39 and 40 without prejudice or disclaimer of their subject matter, amended claim 23, and added new claims 48-51 to further define Applicant's claimed invention.

In the Office Action, the Examiner did not consider three references listed in Applicant's Information Disclosure Statement (IDS) dated March 26, 2004 because the Examiner indicated that he did not have a copy of these references. Applicant is submitting concurrently with this Amendment an IDS including a copy of each of these references.

The Examiner objected to the drawings. Applicant modified the reference numbers for consistency with the specification. Applicant submits that the Examiner's objection to the drawings has been overcome.

The Examiner objected to the specification as containing a typographical error. Applicant amended the specification correcting the typographical error noted by the Examiner. Applicant submits that the Examiner's objection to the specification has been overcome.

The Examiner objected to claim 23 based on informalities. Applicant amended claim 23 to delete the redundant phrase noted by the Examiner. Applicant submits that the objection to claim 23 has been overcome.

The Examiner rejected claim 41 under 35 U.S.C. § 101 as being inoperative and therefore lacking utility. In particular, the Examiner contends that "[t]he addition of genes coding for the production of bone in a fusion implant is not functional different from the equivalent fusion implant without the genes coding for the production of bone."

Applicant respectfully traverses the Examiner's rejection. Applicant is submitting in an IDS concurrently filed herewith, U.S. Patent No. 4,795,804 issued January 3, 1989 to Urist describing the usefulness of genes coding on expression for bone morphogenetic agents. (See, for example, col. 14, lines 10-19). It is submitted that one skilled in the art would appreciate and understand the operability and usefulness of genes coding for

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the production of bone in the context of the invention as demonstrated by the teachings of Urist.

The Examiner rejected claims 1, 3-5, 7, 8, 10, 11, 14-22, 25, and 29 under 35 U.S.C. § 102(b) as being anticipated by WO 00/01314 to Mangione et al. Applicant respectfully traverses the Examiner's rejection. Since the text of WO 00/01314 is in French, in the remarks that follow Applicant will refer to U.S. Patent No. 6,585,738 to Mangione ("Mangione"), which claims priority to WO 00/01314. Independent claim 1 recites a method for stabilizing the spine, including the step of providing first and second plate segments "fastened together by a fastener being detachably attached to at least one of the first and second plate segments so as to permit assembly of the plate segments by the surgeon and complete uncoupling of the first and second plate segments from one another." Claim 1 further recites the step of locking at least one of the bone screws "with at least one bone screw lock."

The Examiner states that the parts of plate 6 disclosed by Mangione are "fastened together by a screw lock (16)." Applicant respectfully submits that the Examiner is improperly using clamping screw 16 as both a bone screw lock and a fastener when Applicant's claim recites the bone screw lock and fastener as two distinct elements. According to the MPEP, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." [citation omitted]. (MPEP § 2131 (May 2004)). Mangione does not teach a bone screw lock and a separate a fastener. Accordingly, Applicant submits that independent claim 1 is novel over the disclosure of Mangione.

Applicant further submits that many of the dependent claims are novel over Mangione. For example only, claim 3 recites the permitting step including "allowing but not causing the movement of the adjacent vertebral bodies by movement of the first and second plate segments of the plate." Claim 4 recites the permitting step including "the first and second plate segments being free to move toward one another." Claim 25 recites the tightening step including "tightening said fastener to cause the fastener to tighten to the first plate segment while permitting movement of the first and second

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plate segments relative to one another." Mangione does not teach the subject matter of any of the aforementioned claims. The Examiner states that the device of Mangione "has two options in all cases, to allow movement or to remain rigid. This solely depends on how tight the surgeon tightens screw lock (16) into place." (Office Action, page 5, paragraph 1). Even if, *assuming arguendo*, the plate taught by Mangione is capable of being moved as indicated by the Examiner, Mangione fails to teach or suggest doing so. Accordingly, Mangione does not anticipate the subject matter of claims 3, 4, and 25 of Applicant's method.

Applicant further submits that Mangione does not anticipate the subject matter of dependent claims 8, 10, and 16-18. Claim 8 recites the causing step including "generating a compressive load across the disc space between the adjacent vertebral bodies." Claim 10 recites the causing step including "storing a compressive load across the disc space between the adjacent vertebral bodies." Claim 16 recites the permitting step including "moving the first and second plate segments relative to one another before the step of inserting the bone screws." Claim 17 recites the further step of "applying a compressive load to the adjacent vertebral bodies." Claim 18 recites the permitting step including "applying a compressive load to the adjacent vertebral bodies." Mangione teaches that "contraction or distraction can be performed" before a final clamping of the plates to one another. (Mangione, col. 4, lines 47-49). Mangione does not teach or suggest the subject matter of claims 8, 10, and 16-18.

Dependent claim 22 recites the tightening step including "permitting movement of the first and second plate segments relative to one another when the fastener is in the second position." The Examiner states that "two interpretations" are possible in the disclosure of Mangione, "[o]ne, the fastener may not be engaged with the lower plate, and once lowered slightly, will engage the lower plate and inhibit movement in the transverse direction but still allow movement in the longitudinal direction. The other interpretation is that the screw is engaged with both plates and when tightened forces the plates together inhibiting all movement." (Office Action, page 5, paragraph 3). In both of the interpretations recited by the Examiner, the clamping screw 16 of Mangione

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has to engage second arm 10. According to Mangione, "[e]ach fixation screw 16 has a threaded cylindrical body which can constitute a screw-nut connection with the head of the associated primary screw 12" so that the fixation screw 16 is introduced "into the primary screw 12." (Mangione, col. 2, line 66 to col. 3, line 1; and col. 4, lines 45-47). Thus, as taught by Mangione, screw 16 never engages lower arm 10. Therefore, neither of the interpretations recited by the Examiner is taught by Mangione. Applicant submits that the subject matter of claim 22 is novel over Mangione.

Applicant respectfully submits that the Examiner's rejection of claims 1, 3-5, 7, 8, 10, 11, 14-22, 25, and 29 under 35 U.S.C. § 102(b) as being anticipated WO 00/01314 to Mangione has been overcome.

The Examiner rejected claims 2, 23, 27, 28, 30, and 31 under 35 U.S.C. § 103(a) as being unpatentable of Mangione; rejected claims 6, 9, 12, 13, and 24 under 35 U.S.C. § 103(a) as being unpatentable of Mangione in view of U.S. Patent No. 3,604,414 to Borges; rejected claims 32-40 and 42-46 under 35 U.S.C. § 103(a) as being unpatentable over Mangione in view of U.S. Patent No. 6,306,136 to Bacelli in further view of common knowledge in the art; and rejected claim 47 under 35 U.S.C. § 103(a) as being unpatentable over Mangion in view of healthatoz.com. Applicant submits that the rejections over claims 2, 6, 9, 12, 13, 23, 24, 27, 28, 30-40, and 42-47 are rendered moot at least because they depend from an allowable independent claim, or claims dependent therefrom.

Applicant submits that independent claim 1 is patentable and that dependent claims 2-38 and 41-51 dependent from independent claim 1, or claims dependent therefrom, are patentable at least due to their dependency from an allowable independent claim.

In view of the foregoing remarks, it is respectfully submitted that the claims, as amended, are patentable. Therefore, it is requested that the Examiner reconsider the outstanding rejections in view of the preceding comments. Issuance of a timely Notice of Allowance of the claims is earnestly solicited.

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To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this reply, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 50-3726.

Respectfully submitted,

MARTIN & FERRARO, LLP

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By: 

Amideo F. Ferraro  
Registration No. 37,129

1557 Lake O'Pines Street, NE  
Hartville, Ohio 44632  
Telephone: (330) 877-0700  
Facsimile: (330) 877-2030